United States Environmental Protection Agency
Washington, D.C. 20460

Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N	ID0000175	15051 8	C	R	2

Remarks

21 ____ 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	BI	QA	Reserved
67 100 69	70 4	71 N	72 N	73 74 75 80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*

Hecla Ltd.
Lucky Friday Mine and Mill
397 Friday Avenue
Mullan, ID 83846

Entry Time/Date	Permit Effective Date
8:00 am / 05/18/15	12/01/2006
Exit Time/Date	**Permit Expiration Date**
12:05 pm / 05/19/15	09/14/2008; admn extnd

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)

Bradley Kucera, P,E., Environmental Manager
208-744-1751, ext. 2349 (w); 208-661-5247 (m)
BKucera@hecla-mining.com

Other Facility Data *(e.g., SIC NAICS, and other descriptive information)*

SIC Code 1044

NAICS Code # 212222

Clayr Alexander replaces former Mine Manager Ed Sutich (I verified that this is the correct spelling for Mr. Alexander). Though I did not contact Mr. Alexander personally, he was aware of our presence at the mine.

Name, Address of Responsible Official/Title/Phone and Fax Number

Clayr Alexander, VP and General Manager
Hecla Ltd., Lucky Friday Mine and Mill
P.O. Box 31, Mullan, ID 83846
1-208-74401751, ext. 2304

Contacted ☐ Yes ☑ No

Section C: Areas Evaluated During Inspection *(Check only those areas evaluated)*

☑ Permit	☑ Self-Monitoring Program	☐ Pretreatment	☐ MS4
☑ **Records/Reports**	☐ Compliance Schedules	☐ Pollution Prevention	
☑ Facility Site Review	☑ Laboratory	☐ Storm Water	
☑ Effluent/Receiving Waters	☑ Operations & Maintenance	☐ Combined Sewer Overflow	
☐ Flow Measurement	☐ Sludge Handling/Disposal	☐ Sanitary Sewer Overflow	

Section D: Summary of Findings/Comments

(Attach additional sheets of narrative and checklists, including Single Event Violation codes, as necessary)

SEV Codes SEV Description

RECEIVED
SEP - 1 2015
Inspection & Enforcement Management Unit (IEMU)

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
Patrck Stoll	EPA/R10/OCE/IEMU/IOO 208-378-5772	8/25/2015
Signature of Management Q A Reviewer	Agency/Office/Phone and Fax Numbers	Date
	EPA/OCE/IEMU 3-0955	9/1/15

EPA Form 3560-3 (Rev 1-06) Previous editions are obsolete.

ICIS
6-2-15 (advance copy)
MAB

United States Environmental Protection Agency
Washington, D.C. 20460

Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N	IDR0505C2900	150518	~	R	2

Remarks: 21 ... 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	BI	QA	Reserved
67 40 69	70 3	71 N	72 N	73 ... 74 75 ... 80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*	Entry Time/Date	Permit Effective Date
Hecla Ltd. Lucky Friday Mine and Mill 397 Friday Avenue Mullan, ID 83846	8:00 am / 05/18/15	12/25/2009
	Exit Time/Date	Permit Expiration Date
	12:05 pm / 05/19/15	09/29/2013; admn extnd

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)	Other Facility Data *(e.g., SIC NAICS, and other descriptive information)*
Bradley Kucera, P,E., Environmental Manager 208-744-1751, ext. 2349 (w); 208-661-5247 (m) BKucera@hecla-mining.com	SIC Code 1044 NAICS Code # 212222 Clayr Alexander replaces former Mine Manager Ed Sutich (I verified that this is the correct spelling for Mr. Alexander). Though I did not contact Mr. Alexander personally, he was aware of our presence at the mine.
Name, Address of Responsible Official/Title/Phone and Fax Number Clayr Alexander, VP and General Manager Hecla Ltd., Lucky Friday Mine and Mill P.O. Box 31, Mullan, ID 83846 1-208-74401751, ext. 2304	Contacted ☐ Yes ☑ No

Section C: Areas Evaluated During Inspection *(Check only those areas evaluated)*

✓ Permit	✓ Self-Monitoring Program	☐ Pretreatment	☐ MS4
✓ **Records/Reports**	☐ Compliance Schedules	☐ Pollution Prevention	
✓ Facility Site Review	✓ Laboratory	☐ Storm Water	
✓ Effluent/Receiving Waters	✓ Operations & Maintenance	☐ Combined Sewer Overflow	
☐ Flow Measurement	☐ Sludge Handling/Disposal	☐ Sanitary Sewer Overflow	

Section D: Summary of Findings/Comments

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SEV Codes | SEV Description

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Patrck Stoll	EPA/R10/OCE/IEMU/IOO 208-378-5772	8/25/2015
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EPA Form 3560-3 (Rev 1-06) Previous editions are obsolete.

ICIS
6-2-15 (advance copy)
AB

National Pollutant Discharge Elimination System (NPDES)
Compliance Evaluation Inspection Report

Individual Discharge Permit and Multi-Sector General Permit for Stormwater Discharges from Industrial Facilities (MSGP)

Hecla Ltd./Lucky Friday Mine
Mullan, Idaho

NPDES Individual Discharge Permit No. ID0000175
NPDES/MSGP Tracking No. IDR05C290

Inspection date: May 18-19, 2015
Report completion date: August 25, 2015

Prepared by:

Patrick Stoll
U.S. Environmental Protection Agency, Region 10
Office of Compliance and Enforcement
Inspection and Enforcement Management Unit
Idaho Operations Office
950 W. Bannock Street
Boise, Idaho 83702
(208) 378-5772

Table of Contents

I. Facility Information

Facility Name:	Hecla Ltd. / Lucky Friday Mine and Mill
NPDES Permit No.:	ID0000175 Effective date: 12/01/2006 Expiration date: 09/14/2008 – Administratively Extended
MSGP Tracking No.:	IDR05C290 Effective date: 12/25/2009 Expiration date: 09/29/2013 – Administratively Extended
Facility Contact(s):	Bradley Kucera, P.E., Environmental Manager (208) 744-1751; ext. 2349 (208) 661-5247 (cell) Clayr Alexander, VP and General Manager (208) 744-1751; ext. 2304 (not present during inspection)
Facility Type:	Lead and Zinc Ores, SIC Code #1031 Silver Ores, SIC Code #1044 MSGP Sector G (G2)
Facility Location:	397 Friday Avenue Mullan, Idaho 83846
Mailing Address:	P.O. Box 31 Mullan, Idaho 83846

II. Inspection Information

Inspection Date(s):	May 18-19, 2015
Inspector(s):	Patrick Stoll, Inspector (lead) EPA Region 10/OCE/IEMU/IOO (208) 378-5772 Brian Levo, Inspector EPA Region 10/OCE/IEMU (206) 553-1816 Maria Lopez, Inspector and Case Officer (day 1 only) EPA Region 10/IOO (208) 378-5616

Entry Time:	8:00 am; 5/18/2015 7:50 am; 5/19/2015
Exit Time:	2:35 pm; 5/18/2015 12:05 pm; 5/19/2015
Weather Conditions:	Clear, cool mornings (upper 50's F), warm afternoons (70's F)
Receiving Waters:	South Fork Coeur d' Alene River, Little North Fork of the Coeur d' Alene, Harris Creek
Purpose:	Evaluate compliance status with respect to the facility's NPDES Individual Permit and Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity.

III. Inspection Entry

This was an announced inspection. I planned to begin the inspection on Monday morning, May 18, 2015. The complexity of the environmental management systems in-place at the Lucky Friday Mine and Mill (Lucky Friday) had made it clear during previous inspections that the advantage of having Mr. Kucera present would warrant a short advance notice. I made two attempts to call Mr. Kucera late in the day the preceding Friday afternoon. After the second attempt, I left a brief message on Mr. Kucera's voice mail. In my message, I explained to Mr. Kucera that I planned to be at the site the following Monday to conduct a National Pollutant Discharge Elimination System (NPDES) inspection.

Along with inspectors Brian Levo and Maria Lopez, I arrived at the Lucky Friday shortly before 8:00 am the morning of May 18, 2015. The three of us met with Mr. Kucera at the Lucky Friday environmental office trailer. After presenting our inspection credentials, I explained that we planned to conduct an inspection at the Lucky Friday to verify compliance with the Clean Water Act. In particular, I explained that our goal was to evaluate facility compliance with respect to both individually permitted industrial discharges and stormwater discharges to the waters of the United States (WOTUS). Mr. Kucera welcomed us to the mine and told us that he had been absent the prior week to attend a mining conference in Canada. He explained that he did not get my phone message until he returned home late Saturday.

IV. Scope of Inspection

As noted above, this inspection was intended to evaluate the degree to which the Lucky Friday was in compliance with the requirements of the facility's individual permit and the Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP). The inspection included the following elements:

1. An opening conference describing the purpose of the inspection.
2. A review of the current status of the Lucky Friday.
3. A detailed review of the recordkeeping (e.g., laboratory analysis, chain-of-custody forms, discharge monitoring reports, Stormwater Pollution Prevention Plan (SWPPP), etc.) associated with the individual permit and the MSGP.
4. A review of the above-ground portion of the Lucky Friday including tailings ponds, outfalls, the borrow site associated with the development of Tailings Pond 4, the Silver Mountain Development Rock Area, and wastewater treatment plants.
5. A closing meeting summarizing observations and issues noted during the inspection.

V. Facility Background

The most recent inspection at the Lucky Friday was conducted by EPA NPDES Compliance Unit Inspector Eva DeMaria on June 24-25, 2013. In her subsequent inspection report, Ms. DeMaria noted that:

> *Hecla has owned and operated the Lucky Friday Unit since 1958. The Lucky Friday Unit consists of a silver, lead, and zinc mine, a processing mill, two wastewater treatment plants (WWTP2 & WWTP3), four tailings ponds, and three NPDES outfalls (001, 002, and 003). Major upgrades of the mill and WWTPs have occurred in the past few years while the mine was in temporary shutdown mode.*

The "temporary shutdown mode" referred to in Ms. DeMaria's report was related to a number of mine accidents in 2011. These accidents (including two fatalities) prompted the Mine Safety and Health Administration (MSHA) to impose a shutdown on all mining operations at the Lucky Friday in early 2012. The mine returned to limited production in February 2014 and full operation by the summer of 2014. At the time of this inspection, the Lucky Friday employed 220 full time employees. The number of contractors working at the site is reportedly project-dependent but typically varies between 50 and 100.

On June 1, 2015, two weeks after this inspection, EPA Region 10 issued a press release announcing a settlement agreement between EPA and Hecla Ltd. for "water pollution violations" at the Lucky Friday. As noted in the press release, "Hecla will pay a $600,000 penalty as part of the settlement". The following quote from the press release describes the violations:

> *Hecla's violations, occurring between 2009 and 2014 at its Lucky Friday Mine and Mill, cover both effluent limit violations and unpermitted discharges to the SF Coeur d'Alene River and two of its tributaries. Hecla's tailings pond 3 was found seeping metals-laden water that Hecla discharged into Harris Creek. During construction of a tailings pond 4, Hecla failed to install adequate controls to ensure that storm water runoff was properly managed and soon turbid runoff*

destroyed a water intake at a downstream fish hatchery. In both cases, Hecla failed to properly report the event to EPA. In all, EPA inspections documented close to 500 combined (effluent limit, unpermitted, and reporting) violations.

As noted in the press release, two particular locations at the mine were associated with the violations – Tailings Pond 3 and the borrow site used during the construction of Tailings Pond 4. These locations, and others, were reviewed during the course of this inspection.

VI. Individual Permit ID0000175 - Recordkeeping Review

The individual discharge permit for this facility requires a significant amount of recordkeeping (e.g., laboratory analysis reports, chain-of-custody forms, Quality Assurance Plan, discharge monitoring reports, etc.) to demonstrate compliance with the permit's effluent limits. The recordkeeping associated with the Lucky Friday appeared to be generally complete and well organized. The following issues were noted during the course of the recordkeeping review:

1. SVL Analytical, Inc. in Kellogg, Idaho (the laboratory used for metal and E. Coli analysis) did not record sample temperature, as received by the lab, on the chain-of-custody forms. Hecla staff did record sample temperature at the time of collection. In many cases, the temperature at the time of collection exceeded the specified holding temperature for E. Coli (< 6 ° C). Though samples were reportedly placed on ice at the time of collection and delivered to the laboratory within a short period of time, Mr. Kucera noted that there were probably instances when the time between collection and delivery to the lab was not sufficient to cool the samples to the specified holding temperature. I explained to Mr. Kucera that recording the temperature of the samples at the time they were delivered to the lab can demonstrate that the samples had been placed on ice and that at least some cooling had taken place since the time of collection. Comparing sample temperature at the time of collection to the temperature at the time of delivery to the lab can also help identify potential transit problems.

2. I noted a lack of written Standard Operating Procedures (SOPs) for conducting pH analysis in the field. During a previous Hecla inspection, I had observed a member of Hecla's environmental staff collect a water sample from a permitted outfall and transport the sample back to a makeshift lab for pH analysis (the lab was located in an older house owned by Hecla – the lab was used primarily for pH and TSS analysis). The senior environmental technician who had collected the sample (and knew she was being timed) was barely able to make it back to the lab to conduct the pH analysis within the "analyze within 15 minutes" time frame specified in the pH test method. During the current inspection, Mr. Kucera told me that Hecla had changed its procedures for pH analysis. The new procedure involved conducting pH analysis in the field at the time of sample collection to insure that analysis took place within the proscribed 15 minutes. I asked Mr. Kucera if Hecla had developed any written SOPs describing this new

procedure. He told me that written SOPs did not currently exist but assured me they could/would be developed and added to the Quality Assurance Plan.

3. As I reviewed the monthly discharge monitoring reports (DMRs) submitted to EPA by Hecla for the last three years of operation at the Lucky Friday, I noted that there had been an exceedance for zinc at Outfall 003 sometime in March of 2014. Mr. Kucera provided me with a copy of the laboratory analysis associated with the excursion and told me that it was detected in a sample collected on March 26, 2014. He explained that the problem had been traced to a failure to deliver the correct amount of a treatment chemical (a flocculant) to process wastewater at WWTP3. Mr. Kucera also told me that it was subsequently discovered that one of the treatment plant operators had falsified records to mask the fact that a chemical delivery pump was not operating properly. In answer to my question, Mr. Kucera told me that the mine's labor union had intervened on behalf of the operator and no disciplinary action had been taken.

VII. Individual Permit ID0000175 – Tailings Ponds and Outfalls

The four tailings ponds and two wastewater treatment plants at the Lucky Friday are, or have been, primarily responsible for the individual NPDES permitted discharges at Outfalls 001, 002, and 003. Two of the tailings ponds have been closed in recent years; the third is likely to be closed at some time in the near future. Though I am discussing each of the tailings ponds in their respective order from west to east, only Tailings Ponds 3 and 4 were visited during this inspection. The same is true with respect to the Wastewater Treatment Plants – only Wastewater Treatment Plant 3 was visited during this inspection (there is no Wastewater Treatment Plant 1). I choose this approach, in part, so we could devote more time to reviewing facility records and to assess the two locations associated with the penalty action described above in Section V (*Facility Background*).

Tailings Pond 1 (TP1) and Outfall 001

Outfall 001 is located along the South Fork of the Coeur d' Alene River (SFCdA) below TP1. TP1, the oldest and westernmost of the tailings ponds (see Photo 1), has been permanently closed. The pond has been reclaimed and stabilized. The Idaho Department of Water Resources has released the pond's surety bond. According to Mr. Kucera, there is no longer any discharge from TP1 to Outfall 001; the piping system that once conveyed any discharges from TP1 to Outfall 001 has been removed. The only discharge at Outfall 001 at the present time is stormwater runoff. The only sampling currently taking place at Outfall 001 involves the collection of quarterly visual samples to fulfill one of the self-inspection requirements of the MSGP.

Tailings Pond 2 (TP2) and Outfall 002

In her June 2013 inspection report, Ms. DeMaria noted the following with respect to TP2:

Pond 2 is currently undergoing abandonment and voluntary cleanup. Hecla eventually plans on deeding 7 acres to Idaho Transportation Department (ITD) after the area is asphalted and built to final grade in 2014... ITD will then exchange some if its own land to Hecla through a Memorandum of Understanding. Hecla will retain the remaining 10 acres of Pond 2. All piezometers have been removed and groundwater monitoring has ceased.

At the time of this inspection, the land swap with ITD was still in the works but was expected to be completed soon. Outside of stormwater runoff (regulated under the MSGP), Mr. Kucera reported that there is no longer any potential for a discharge from within TP2 to Outfall 002. Though TP2 no longer discharges to Outfall 002, significant volumes of treated wastewater are currently discharged at Outfall 002. This wastewater was not specifically addressed (or accounted for) in the 2008 permit currently applicable to the Lucky Friday wastewater discharges (the 2008 permit only includes effluent limits that would apply when the wastewater normally discharged at Outfalls 001 or 003 is diverted to Outfall 002). Outfall 002 is currently discharging treated wastewater from Wastewater Treatment Plant 2 (WWTP2). WWTP2 was one of two new treatment plants constructed in 2008 to comply with new effluent limits (see Section VIII below for description of two new wastewater treatment plants). The natural drainage at Outfall 002 also serves as the discharge and sampling location for stormwater runoff from the generally impervious surface of TP2 and surrounding areas.

Tailings Pond 3 (TP3) and Outfall 003

Recent data suggests that seepage from TP3 may be at least partially responsible for groundwater contamination in the vicinity of the tailings pond. According to Mr. Kucera, TP3 has not received any mill tailings since 2010. Mr. Kucera indicated that it was his personal belief that it is time to initiate formal closure of the pond (see Photos 4-6). Closure would limit future infiltration of stormwater and the dispersal of wind-blown dust from the dried-out tailings. Mr. Kucera reportedly told Ms. DeMaria, during her 2013 inspection, that closure of TP3 might not lead to a decrease in groundwater contamination near the pond. It is evidently Mr. Kucera's belief (as he reported to Ms. DeMaria in 2013 and to me at the time of this inspection), that the source of groundwater contamination could be what is now a solid waste landfill owned and operated by the City of Mullan. This landfill is adjacent to and upgradient from TP3. According to Mr. Kucera, historical data suggests that the landfill site was once used for the disposal of mine tailings from a much older mine that had operated nearby in the early 1900's.

In the *Facility Background* section of this report (Section V), I described a recent settlement agreement entered into by and between EPA and Hecla Ltd. The agreement included a $600,000 penalty for "water pollution violations" at the Lucky Friday. TP3 was one of two locations involved in the penalty assessment. One of the penalty issues at TP3 came to EPA's attention during the course of a routine NPDES inspection in February 2010. At that time, what appeared to be an unreported seep was discovered by

EPA inspectors along a bench located midway between the toe and the crest of TP3 on the south exterior wall of the tailings pond (the horizontal "bench" was created when a new stage was added to the top of the pond). Further investigations suggested that the seep was associated with a mixture of stormwater and mill tailings from within the pond. The seepage was of particular concern since Harris Creek, a tributary of the SFCdA, flows past the southeast end of TP3. A section of Harris Creek is located approximately 20' from the area where the seepage was observed. To address this issue, Hecla installed a French drain within a 550' horizontal segment of the south face of the tailings pond (see Photos 7-8). The French drain is intended to intercept any seepage from within the pond and divert it to a concrete sump equipped with a float-activated pump. This water is then pumped back into TP3.

As noted in the above paragraph, Harris Creek flows along the southeast corner of TP3. At the eastern end of TP3, Harris Creek flows into what is referred to as the "beaver pond" prior to its confluence with the SFCdA. The SFCdA flows from east to west along the north side of TP3. Another French drain has been installed along the toe of the north side of TP3 between the tailings pond and the SFCdA. This French drain is designed to intercept groundwater and any seepage from the tailings pond. The intercepted groundwater/seepage flows routinely into a sump located midway along the north side of TP3. From the sump, it is pumped to Wastewater Treatment Plant 3 (WWTP3) for treatment. WWTP3 is located below the northwest corner of TP3. Treatment of the groundwater/seepage is necessary to comply with the effluent limits specified in the facility's NPDES permit prior to discharge to the SFCdA at Outfall 003. A series of groundwater monitoring wells and piezometers have been installed at various locations around TP3. Subsurface investigations continue in an attempt to identify the source and extent of groundwater contamination.

Tailings Pond 4 (TP4)

Since 2010, TP4 is the only pond that has been receiving mill tailings. In her 2013 inspection report, Ms. DeMaria described the construction of TP4 as follows:

> *In 2008, Hecla began construction of the mill tailings pipeline to Pond 4, an approximately 5-mile endeavor* [sic]. *A large portion of the pipeline is built along the so-called mill-truck shaker road. The pipeline is made of 8-inch diameter steel pipe with a 2-inch thick HDPE line which leaves 4-inch diameter space for tailings to be transported. In 2007, installation of the 60 mm LLDPE tailings pond liner began. In 2009, final (back) elevation of the pond was completed. In 2010, installation of the liner was completed ... There are 4 stages of construction, each comprised of 15 foot lifts. Stage 1 involved the 24-acre downstream construction. Stage 2 is now underway to construct the next 15-foot lift and is expected to take 2 years to complete. Stage 3 is estimated to take 5 years to complete. Stage 4 will have a 36-acre surface. Each lift is estimated to cost $6 million. 12-inch minus rock is used in construction of the embankment ... The tailings pond has a life expectancy to 2026* [sic]. *There are three drains built into the pond: (1) the underdrain which is above the liner but below the tailings*

and ensures proper drainage of tailings; (2) foundation drain which ensures the structural stability of the dam; and (3) toe drain which is a perforated pipe drainage blanket that returns any seeps and sent to WWTP2 or 3. A storm water ditch follows the top of the dam before descending to a 75'x75' plunge pool. The ditch is filled with hydrotex fabric which is supposed to slow the velocity of any storm water...

No tailings were generated or sent to TP4 during the "shutdown mode" (see Section V, *Facility Background*) between January 2012 and the resumption of production in February 2014. For this reason, there was still a considerable amount of capacity remaining within Stage 2 at the time of this inspection (see Photos 9-11). According to Mr. Kucera, the addition of Stage 3 is not expected to take place for at least two more years. Once completed, it is expected that Stage 3 will provide sufficient capacity until 2023. Mr. Kucera indicated that a new impoundment (at a location yet to be decided) would probably take the place of Stage 4 (i.e., there will be no "Stage 4").

Wastewater collected in the TP4 underdrain and toe drain described in Ms. DeMaria's inspection report combines with the decant line from TP4 in the "Junction Box Building" (JBB) located near the base of TP4 (see Photos 12-15). The combined waste streams flow under gravity to WWTP3. The foundation drain mentioned in Ms. DeMaria's report flows from the JBB to an adjacent infiltration basin.

VIII. Individual Permit ID0000175 – Wastewater Treatment Plants 2 and 3

During the course of this inspection, I noted that the two wastewater treatment plants (WWTP2 and WWTP3) are not specifically addressed in the facility's current NPDES permit. I also noted that Outfall 002 does not have its own set of dedicated effluent limits even though the effluent from WWTP2 is discharged to the SFCdA at that location.

The Lucky Friday is currently operating under an individual NPDES permit that was last modified in August 2008. The permit was administratively extended at that time. The 2008 permit includes specific effluent limits for Outfalls 1 and 3. With respect to Outfall 002, the 2008 permit only includes effluent limits for those circumstances when the wastewater normally discharged at Outfalls 1 or 3 (discharge from Tailings Ponds 1 or 3) is diverted to Outfall 002. It is clear that the 2008 permit did not take into account any type of dedicated discharge specific to Outfall 002; in other words, the permit did not address the current discharge from WWTP2 to Outfall 002. As I explored this further, I realized that neither WWTP2 nor WWTP3 were accounted for in the 2008 permit. I had mistakenly assumed that both WWTP2 and WWTP3 were in existence and operating in 2008 and would have been addressed in the 2008 permit. This was not the case.

As I looked into this further, I was told by Hecla staff that the wastewater treatment plants were completed in late September 2008. On August 14, 2012, Bradley Kucera

submitted an ***Update of Information for Renewal of NPDES Permit ID-000017-5*** on behalf of Hecla Vice President and General Manager Edward Sutich to EPA Region 10 permit writer Lisa Olson (see Attachment B). In the lengthy cover letter, Hecla provided the following information describing the addition of WWTP2 and WWTP3:

Description of WTP02

Fresh water usage (dust suppression, drilling activities, HVAC usage, etc) underground and groundwater infiltration into the underground workings are the source of water flows pumped out of the mine. This flow is settled underground in decanting sumps. The decanted water is pH adjusted and flocculated underground to promote chemical precipitation in sump locations. Mine water reaching the surface is amended with various flocculants and coagulants prior to throughput in a slant plate clarifier where sedimentation of this stream occurs. The flowrate through the clarifier is approximately 420 gpm. A portion of the clarified overflow (on average approximately 200 gpm) is sent to a recycle tank for use in the mill floatation circuits and slurry transport. The remaining flow (on average approximately 220 gpm) which is not utilized by the mill is filtered using MMF [multi-media filtration] *columns prior to discharge. The accumulated sediment collected in the bottom hoppers of the clarifier is pumped to the top of the tails thickener and ultimately disposed of in MTIS#4* [mine tailings impoundment structure; i.e. tailings pond]. *Backwash residuals from the subsequent filtration system and with minor contributions from pump gland seals at the mill are pumped to the surge tank at WTP03 for filtration within MMF columns. The MMF system consists of three media columns approximately 8-foot diameter and 8-foot in height. The columns are filled with a 36" thick (minimum thickness) bed of granular material. The influent flow rate is split to utilize all three vessels in parallel to increase the duration between backwash cycles. As the differential pressures across the media bed reach the set point, the system automatically initiates a backwash cycle.*

Description of WTP03

The water source to the mill flotation circuits consists primarily of water from the recycle system (originally pumped from underground which was clarified when necessary, prior to delivery to the recycle system tankage) installed to provide water for reuse in the mill. Occasionally, to control the metallurgy within the mill, fresh make-up water is added to the system. Tailings slurry (solids containing transport water) exiting the mill

from the floatation circuits are amended with lime additions and/or proprietary reagents to promote chemical precipitation. Following lime adjustments and/or reagent addition, the tails are thickened prior to pumping to MTIS#4. This combines the steps of both chemical precipitation and sedimentation. Surplus water accumulating in MTIS#4 (approximately 450 gpm) is decanted from the surface and currently routed to WTP03 for additional settling/clarification. Prior to leaving the MTIS#4 site, the decanted water is further amended with injection of flocculants and coagulant compounds within the junction box building to increase the settling and clarification efficiency across the inclined plate clarifier at WTP03 . The MMF system at WTP03 is identical to the components at WTP02 consisting of three columns approximately 8-foot in diameter and 8-foot in height each exhibiting a media bed with a minimum thickness of 36 inches. The influent flow rate is split to utilize all three vessels in parallel to increase the duration between backwash cycles. As the differential pressures across the media bed reach the set point, the system automatically initiates a backwash cycle. All water used in the backwash cycle for WTP03 are pumped for ultimate disposal in MTIS#3.

Note: Photos 16-19 document the status of WWTP3 at the time of this inspection.

The cover letter submitted by Mr. Kucera also provided information explaining why Hecla believes that the current effluent limits contained in the 2008 permit are adequate and appropriate for any additional contribution from WWTP2 to Outfall 002 and from WWTP3 to Outfall 003.

The construction of WWTP2 and WWTP3 raises a number of issues and questions. Foremost among them are the following:

1. Hecla requested a permit modification to allow for a new pH effluent limit (an increase from pH 9 to pH10) prior to expiration of the 2008 permit. The permit modification was also intended to serve as an update to the existing permit. The request was granted in 2008. It would appear that the permit modification was taking place the same time that the new wastewater treatment plants were being constructed. Why weren't the treatment plants addressed in the request for permit modification and update?

2. The two new wastewater treatment plants were evidently needed to meet new effluent limits. Prior to construction of the treatment plants, the wastewater flowed into the tailings ponds with subsequent discharge to the SFCdA. The wastewater treatment plants replace the tailings ponds and provide a greater measure of treatment. Do the wastewater treatment plants constitute a "new source" as defined at 40 CFR 122.29?

3. If each of the new wastewater treatment plants were indeed a "new source", should Hecla have submitted a timelier request for a permit modification?

4. Assuming that Hecla's August 14, 2012 ***Update of Information for Renewal of NPDES Permit ID-000017-5*** (see Attachment B) was Hecla's first official notice to EPA that two new wastewater treatment plants had been constructed and began discharging approximately four years earlier, was this sufficient notice to satisfy all NPDES permitting requirements?

IX. MSGP IDR05C290; Stormwater Management

The Lucky Friday has had stormwater coverage under the administratively extended 2008 MSGP since May 2009. The facility's Stormwater Pollution Prevention Plan (SWPPP) was reviewed during this inspection. The SWPPP was generally complete and well organized. The only deficiencies noted were as follows:

- Part 4.2 of the MSGP outlines the requirements for collecting and evaluating ***quarterly visual assessment*** samples of stormwater discharges. At the Lucky Friday, the two primary locations for collecting these samples are at Outfalls 1 and 2. Mr. Kucera explained that these outfalls are considered to be "*substantially identical outfalls*". For this reason, the quarterly visual samples are collected alternately between Outfalls 1 and 2. I noted during this inspection that at least one of the more recent quarterly visual assessments was missing. To explain this discrepancy, a member of the Lucky Friday stormwater team had made a note in the SWPPP that there was no stormwater discharge during the quarter in question. I pointed out the "*Climates with Irregular Stormwater Runnoff*" paragraph in Part 4.2.3 of the MSGP noting that "*...the quarterly visual assessments may be distributed during seasons when precipitation runoff occurs*".

- The Lucky Friday SWPPP notes that the facility follows the monthly schedule for conducting routine facility inspections (Part 4.1.1 of the MSGP). It appeared that the facility had failed to conduct a routine facility inspection in February 2014 (I did, however, find an inspection report for February 28, 2012 in the 2014 section of the SWPPP).

MSGP and the Borrow Source Used To Construct Tailings Pond 4 (TP4)

On November 27, 2012, while conducting other stormwater inspections in North Idaho, I responded to a complaint involving the discharge of sediment-laden stormwater runoff from the "borrow source" used during the construction of TP4. The 22 acre borrow source was located on the east side of the Little North Fork (LNF) of the SFCdA River (see Photo 20). Approximately one week earlier, a major rainfall event had caused a signification discharge of sediment-laden stormwater to the LNF a short distance above the Hale Fish Hatchery (see my ***Hecla Ltd., Lucky Friday Unit, November 27, 2012 MSGP Complaint-Based Inspection Report***). The staff at the Lucky Friday failed to

report the release to EPA. The justification for not reporting the release was based on an assumption that the rainfall event that led to the release was larger than the facility was required to plan for. Part 8.G. 4.1.3 of the MSGP notes that the sediment basins must be sized to contain the volume of runoff associated with the local 2-year, 24-hour storm event. Applying this criteria to the Lucky Friday, the sediment basin would have needed to contain the runoff from a 1.98" storm. Since the event that triggered the discharge to the LNF reportedly involved 2.1" of rain, Bradley Kucera argued that Hecla was not at fault for the discharge since the storm event exceeded the 2-year, 24-hour storm design requirement. Taking this argument one step further, since Hecla could not be faulted for the discharge, Mr. Kucera maintained that a release report was not necessary. The failure to report this release was one of the factors in the $600,000 penalty settlement noted in Section V above.

At the time of this inspection, Mr. Kucera acknowledged that the borrow source area, located so close to the LNF, is not a good source of material for any future additions to TP4. According to Mr. Kucera, when it becomes necessary to add a new stage (Stage 3) to TP4, Hecla will utilize the course rock left over from the milling process. This material is currently being staged at the Silver Mountain Dump site (more recently referred to as the Silver Mountain Development Rock Area) described below. Mr. Kucera indicated that it may also be necessary for Hecla to acquire another off-site location for source material. In the meantime, the borrow source area has been stabilized and has many remaining erosion and sediment controls in place to prevent any future discharges (see Photos 21-25).

Silver Mountain Dump

The Lucky Friday manages a "waste rock" staging area northeast of TP3, on the opposite (north) side of Larson Road (see Photos 26-29). The site is commonly referred to as the ***Silver Mountain Dump*** or (more recently) the ***Silver Mountain Development Rock Area***. The latter term is apparently preferred since it has more positive connotations. The material staged in this area is primarily waste rock from the milling operations (Hecla would prefer not to use the term "waste" rock since it is only being accumulated prior to use as construction material for Stage 3 at TP4). Prior to its confluence with the SFCdA River, Daisy Creek flows from north to south in a gulch along the east side of the Silver Mountain Dump. A very tall vegetated berm effectively separates the Silver Mountain Dump from Daisy Creek. During the course of this inspection, I did note visual evidence that turbid stormwater had flowed down the gravel access road (the access road to the Silver Mountain Dump) and into the borrow pit along the north side of Larson Road (see Photos 30-32). I did not see any erosion and/or sediment control measures in place that would prevent the discharge of turbid stormwater from flowing into the SFCdA further down the road.

X. Closing Conference

The closing conference for this inspection was conducted on the second day of the inspection (May 19, 2015) at 11:20 am. To provide sufficient time for a second Hecla

inspection involving the nearby Star/Morning Mine and Mill, I choose to forego a visit to Lucky Friday Outfalls 001 and 002 and WWTP2. During the conference, Bradly Kucera represented Hecla while Brian Levo and I represented EPA (EPA employee Maria Lopez had returned to Boise at the end of the previous day).

As part of the closing conference, I provided Mr. Kucera with a brief summary of the potential areas of concerns we noted during the inspection.

1. I reiterated my concerns involving the failure of SVL to record the temperature of water quality samples at the time they are received by the lab.

2. I noted the apparent absence of a routine facility inspection report for February 2014. Mr. Kucera assured me that the inspection had been conducted and that he was sure he would be able to locate the appropriate documentation.

3. I reiterated the importance of adding SOPs for conducting pH analysis in field to the Lucky Friday Quality Assurance Plan.

4. We discussed the options for distributing the required quarterly visual assessment samples at sites that experience "*Climates with irregular stormwater runoff*".

5. I expressed my concerns about the evidence of sediment-laden runoff and the apparent lack of BMPs below the access road to the Silver Mountain Development Rock Area.

I invited Mr. Kucera to provide me with any documentation he might have to challenge or correct any of the concerns noted above. I thanked him for his time with the Lucky Friday inspection and made arrangements to meet him after lunch to begin an inspection at the nearby Star/Morning Mine and Mill.

Note: in the days after this inspection, I contacted Mr. Kucera to ask if he had been able to locate the missing inspection report for February 2014. He called me back a short time later to announce that the missing report had, in fact, been "sitting right in front of us the whole time". According to Mr. Kucera, it had mistakenly been dated as ***2012*** instead of ***2014***. Mr. Kucera explained that he had gone back through the 2012 inspection reports folder and had come across a separate February 2012 inspection report for the 29th of the month. Mr. Kucera claimed that the February inspection report dated ***2012*** in the ***2014*** file was dated incorrectly. Mr. Kucera sent me copies of the two separate 2012 inspection reports, via email. It was clear that they were associated with two separate inspections.

XI. Areas of Concern

With two exceptions, items 1-5 in the previous Section (***Section X, Closing Conference***) summarize most of the concerns I noted during this inspection. One

exception involved the apparent groundwater contamination in the vicinity of TP3. This concern is being addressed separately by other Units within EPA Region 10 - it was not a significant focus of this inspection. The other concern involves what appears to be a possible failure on the part of Hecla to provide updated information related to the construction and operation of WWTP2 and WWTP3. It was not until August 14, 2012 (approximately four years after the treatment plants were constructed and placed into operation) that Hecla requested a permit application update to add the new wastewater treatment plants to its NPDES permit.

Hecla Ltd, Lucky Friday Mine and Mill
Report Completion Date: 8/25/2015

Inspector:

Patrick Stoll, EPA/R10/IOO
Lead Inspector

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015
Photo Log

Inspection site/facility name:	Hecla Ltd, Lucky Friday Mine and Mill
Physical Location:	397 Friday Avenue Mullan, Idaho 83846
NPDES ID #:	ID0000175 and MSGP Tracking # IDR05C290
Type of Inspection:	Individual and MSGP Compliance Evaluation Inspection
Date of Inspection:	May 18-19, 2015
Inspector(s):	Patrick Stoll, EPA/OCE/IEMU/IOO
Image capture device:	Panasonic Lumix DMC-TS4
Original file type, pixel dimensions, and file numbers assigned by camera:	JPG; 4000 x 3000 pixels; image numbers P1010182 – P1010250
Photo Log Image ID #s:	Images numbered: 1-27
Digital images recorded by:	Patrick Stoll unless otherwise noted
Drainage/flow direction:	
Additional Notes:	

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

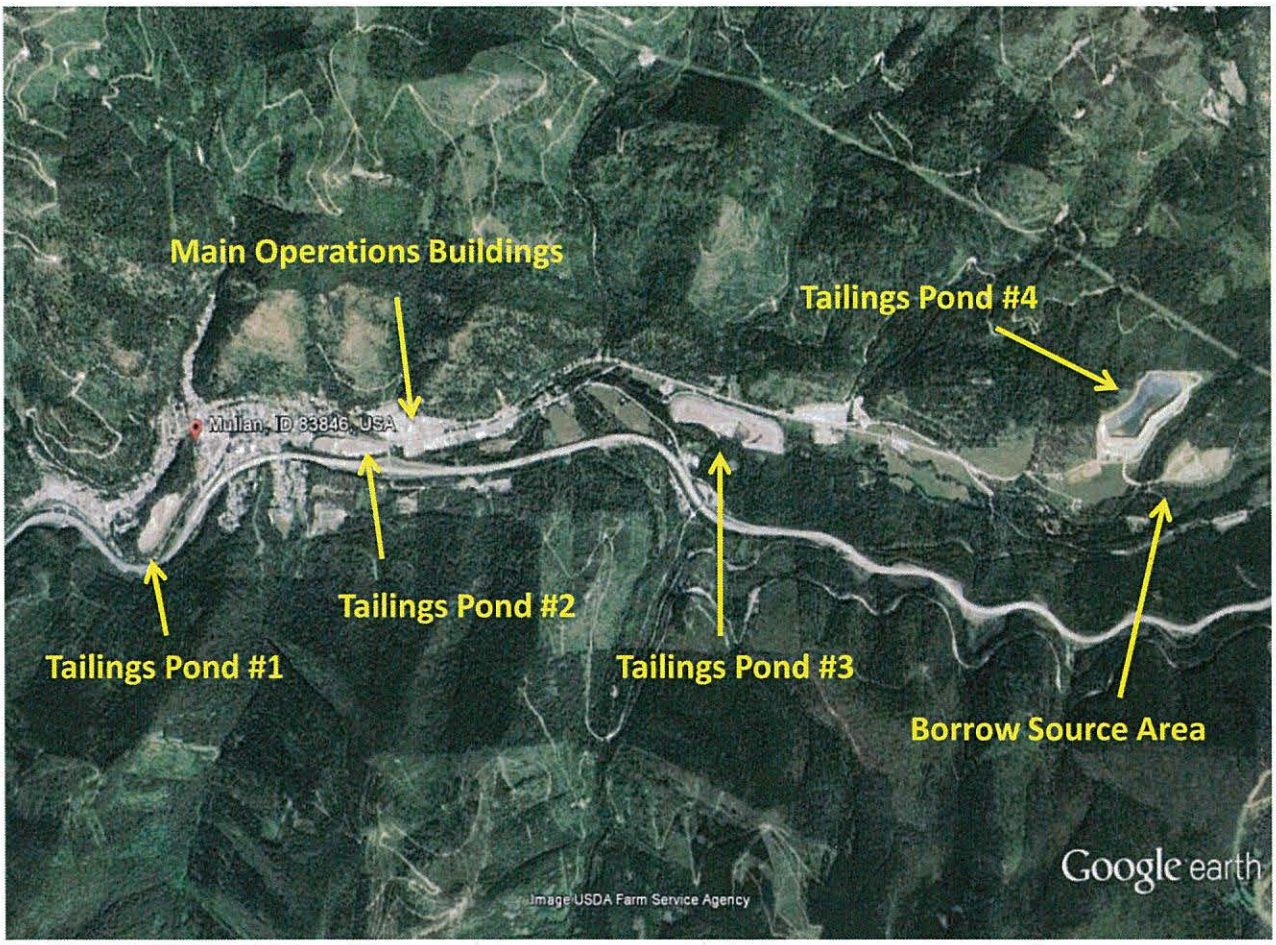

Photo No. 1 (Google Earth photo; 8/16/2012)
Mullan, Idaho and Hecla's Lucky Friday operations.

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

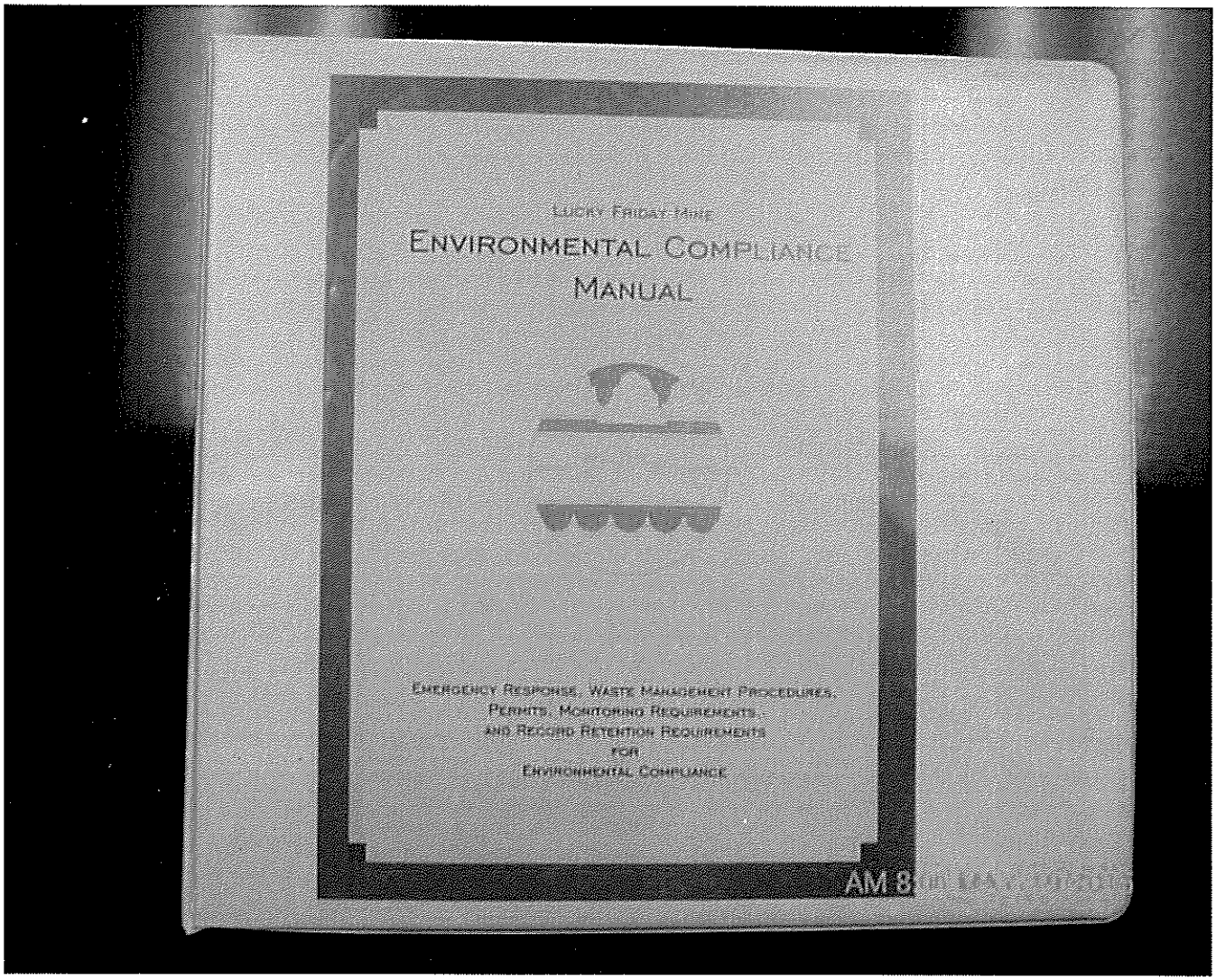

Photo No. 2 (P1010217)
Hecla Lucky Friday Mine Environmental Compliance Manual

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

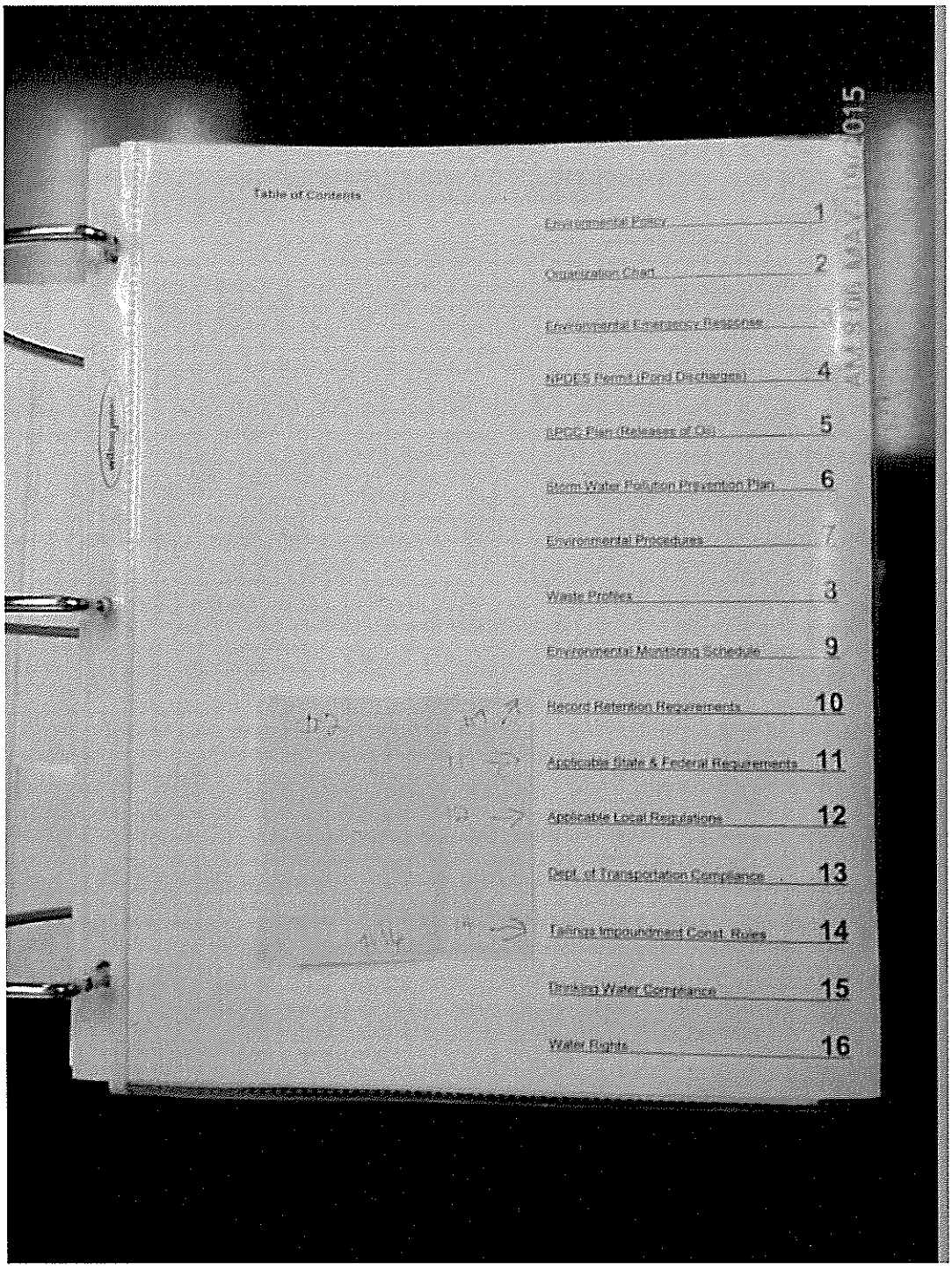

Photo No. 3 (P1010218)
Hecla Lucky Friday Mine Environmental Compliance Manual – Table of Contents

Hecla Ltd, Lucky Friday Mine and Mill
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Photo No. 4 (P1010235)
Facing north – this is the east end of Tailings Pond 3; the black objects are "bird balls" that were once used as a floating cover and water fowl deterrent.

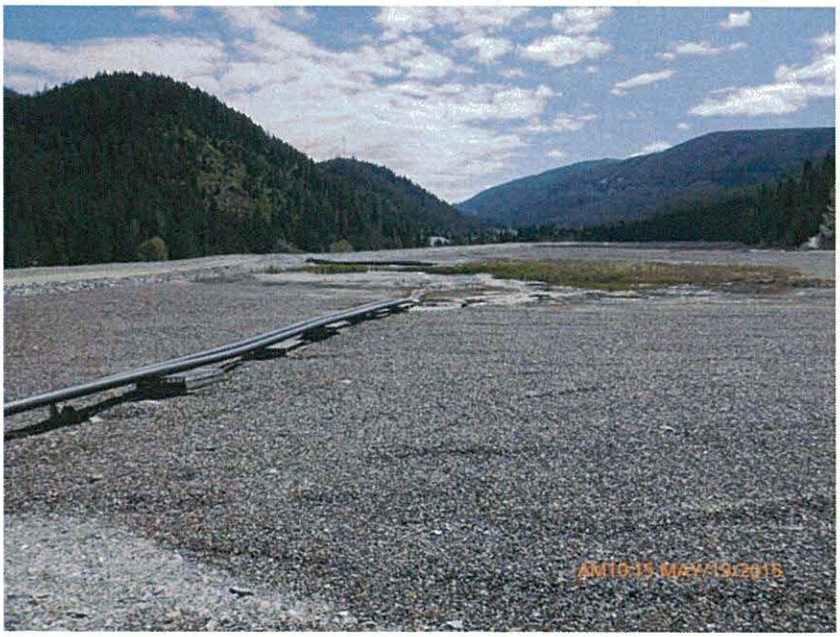

Photo No. 5 (P1010238)
Facing northwest – this is the west side of Tailings Pond 3.

Hecla Ltd, Lucky Friday Mine and Mill
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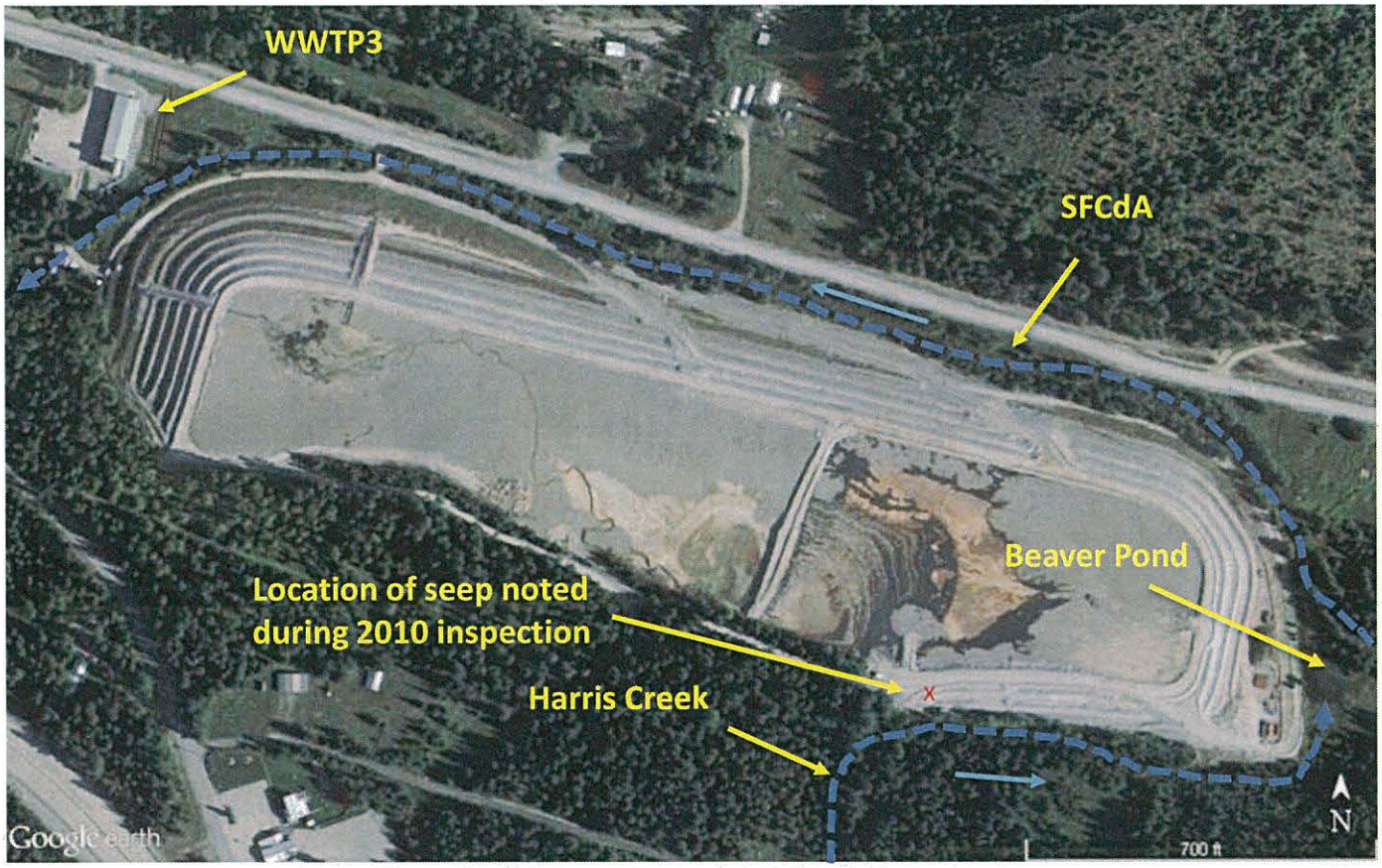

Photo No. 6 (Google Earth – imagery date 8/24/2014)
Tailings Pond 3

Hecla Ltd, Lucky Friday Mine and Mill
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Photo No. 7 (P1010232)
Facing west – this is the south side of TP3. A seep was observed in this area during a 2010 inspection.

Photo No. 8 (P1010233)
Facing north – this is the sump noted in the previous photo (Photo 6). Water collected in the French drain flows into this sump from horizontal laterals extending from each side of the sump. Water collected in the sump is pumped back into Tailings Pond 3.

Hecla Ltd, Lucky Friday Mine and Mill
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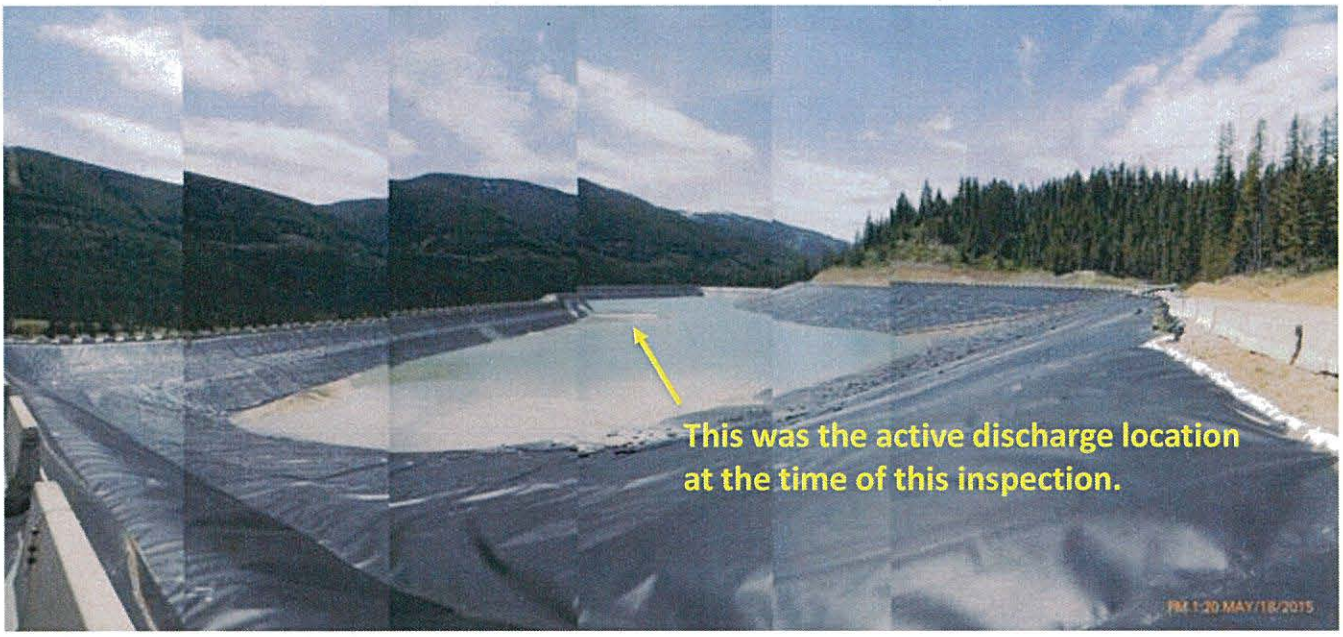

Photo No. 9 (P1010183 – P1010188)
Facing west southwest – this is TP4. The discharge location for the tailings can be changed to prevent the formation of beaches that could isolate parts of the pond.

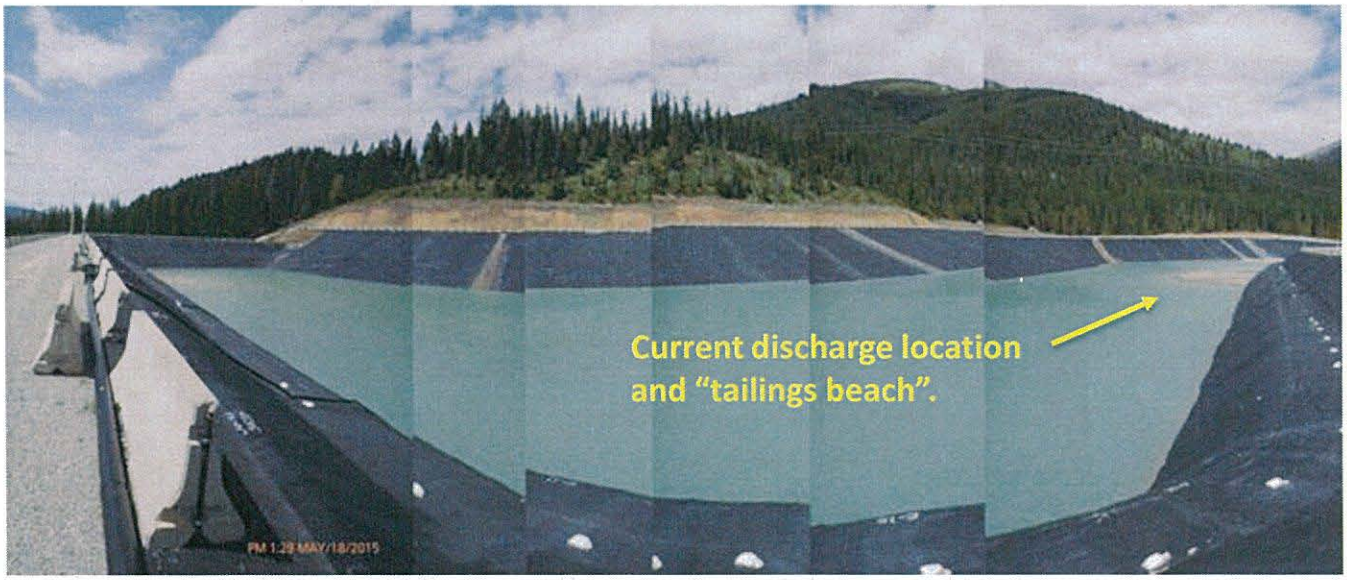

Photo No. 10 (P1010190-P1010196)
Facing northeast – looking back toward the location where the previous photo (Photo 9) was made.

Hecla Ltd, Lucky Friday Mine and Mill
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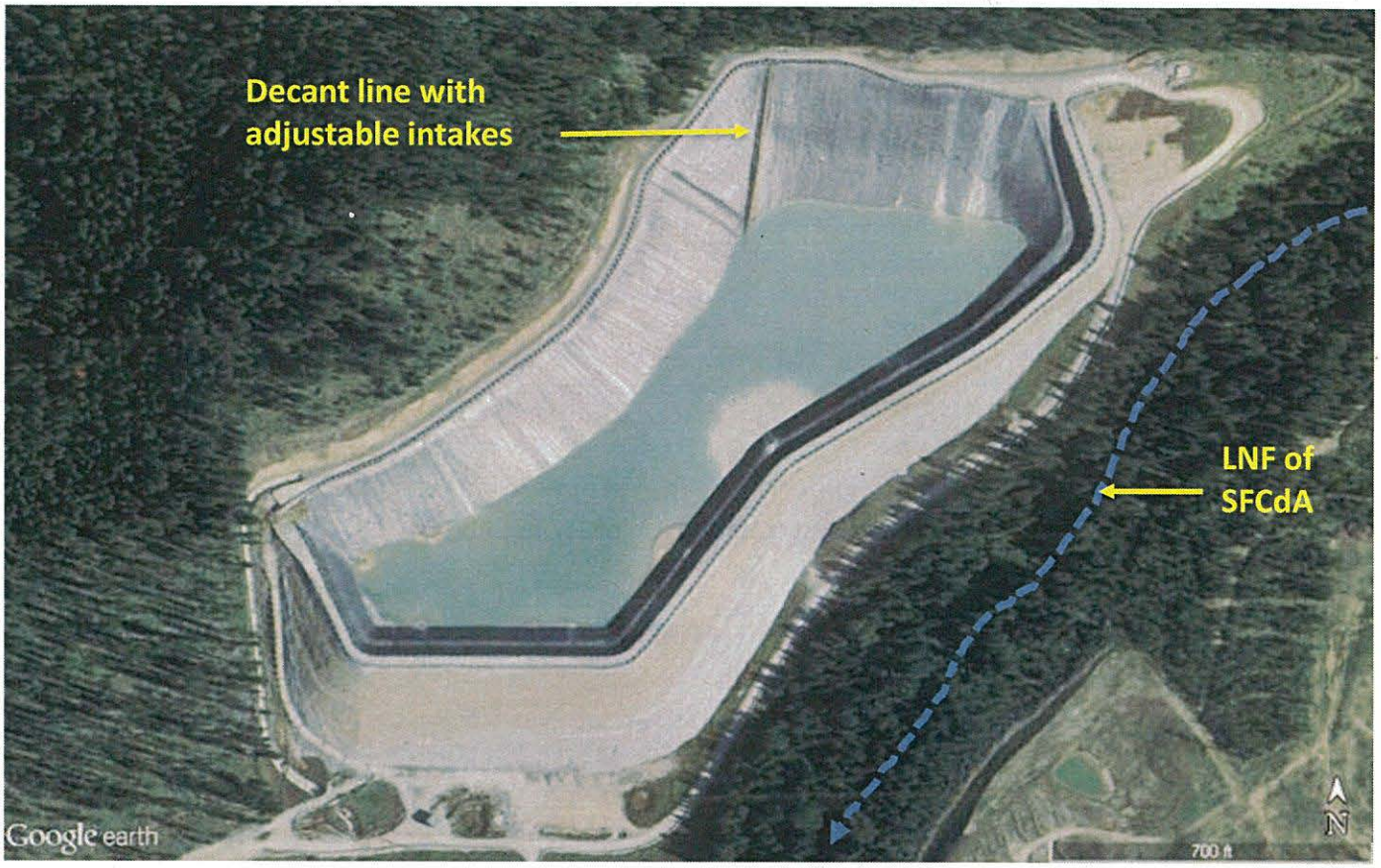

Photo No. 11 (Google Earth – imagery date 8/24/2014)
Tailings Pond 4

Hecla Ltd, Lucky Friday Mine and Mill
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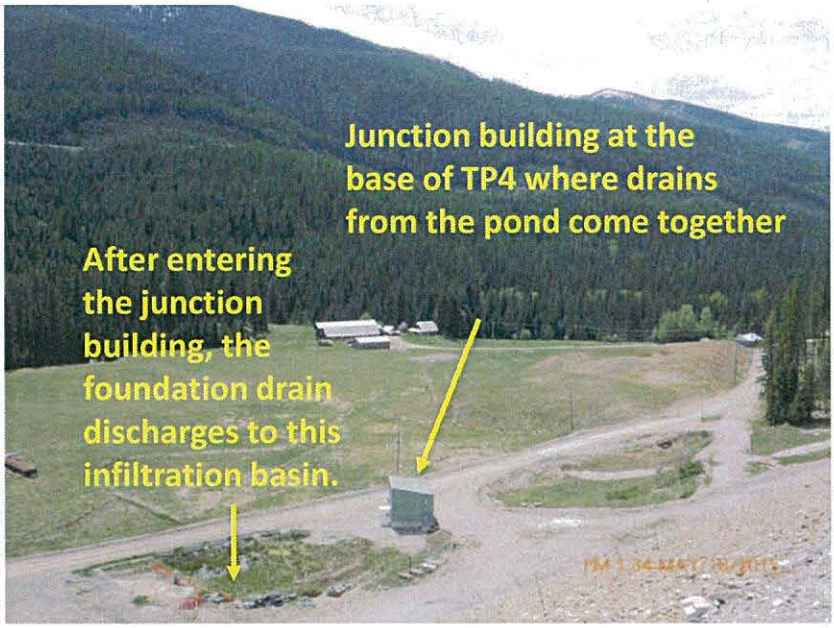

Photo No. 12 (P1010199)
Facing southwest from the top of Tailings Pond 4.

Photo No. 13 (P1010204)
The various drains associated with TP4 are all routed to and through the junction building. The toe, decant, and underdrain flow downhill to WWTP 3 (some may be diverted for make-up water in the mill). Water from the foundation drain discharges to adjacent infiltration basin.

Hecla Ltd, Lucky Friday Mine and Mill
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Photo No. 14 (P1010205)
The volume of water flowing through the TP4 drains is continuously monitored in the junction building.

Photo No. 15 (P1010240)
Facing south – the drain water from TP4 flows downhill and crosses the SFCdA midway along the north side of TP3. There is sufficient head to lift the water to the piping system along the top of TP3.

Hecla Ltd, Lucky Friday Mine and Mill
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Photo No. 16 (P1010239)
Facing west – the larger line on the right, sitting atop the crest on the north side of TP3, delivers the drain water from TP4 to WWTP3. The line on the left conveys water from TP3 to WWTP3.

Photo No. 17 (P1010247)
Facing east – these are the lines that convey water from the top of TP3 to WWTP3.

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

Photo No. 18 (P1010245)
The treated wastewater from WWTP3 flows through this Parshall flume before discharge to the SFCdA.

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

Photo No. 19 (P1010248)
This ISCO sampler is used to collect composite samples of the discharge from WWTP3 to the SFCdA.

Hecla Ltd, Lucky Friday Mine and Mill
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Photo No. 20 (P1010200 – P1010201)
Facing east from atop TP4 – the bare area was the former borrow source used during the construction of TP4.

Photo No. 21 (P1010207)
Facing east – this access road across the LNF to the borrow source was constructed during the development of TP4.

Hecla Ltd, Lucky Friday Mine and Mill
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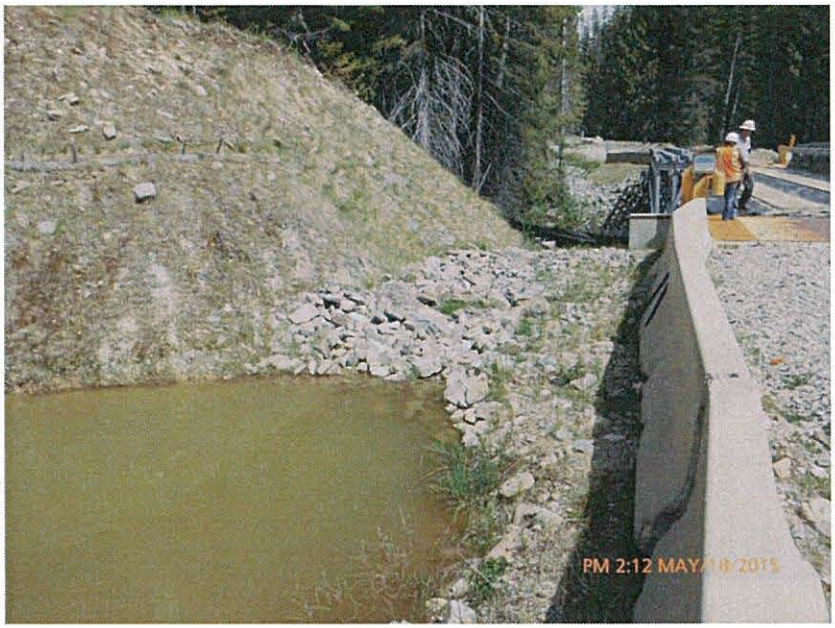

Photo No. 22 (P1010211)
Facing east – this small sediment basin was constructed to prevent sediment from flowing into the LNF.

Photo No. 23 (P1010212)
Facing northeast – this plastic skirting was installed along both sides of the bridge spanning the LNF to keep sediment out of the river.

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

Photo No. 24 (P1010213)
Facing west from the borrow source side of the LNF – these rock check dams were installed after the November 2012 discharge to the LNF and the Hale Fish Hatchery.

Photo No. 25 (P1010216)
Facing west – the former borrow source area has been seeded and grasses are growing in the area. A number of erosion and sediment control features remain in place.

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

Photo No. 26 (P1010229)
Facing southwest from above the Silver Mountain Dump – the coarsely ground rock from the mill operations is accumulated in this area. This material will reportedly be used to construct the next stage at TP4

Photo No. 27 (P1010230)
Facing northeast – this photo was made from the crest of the berm that separates the Silver Mountain Dump from Daisy Creek. After the curve at the NE end of the berm, the road descends gradually for approximately700 feet to its intersection with Larson Road.

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

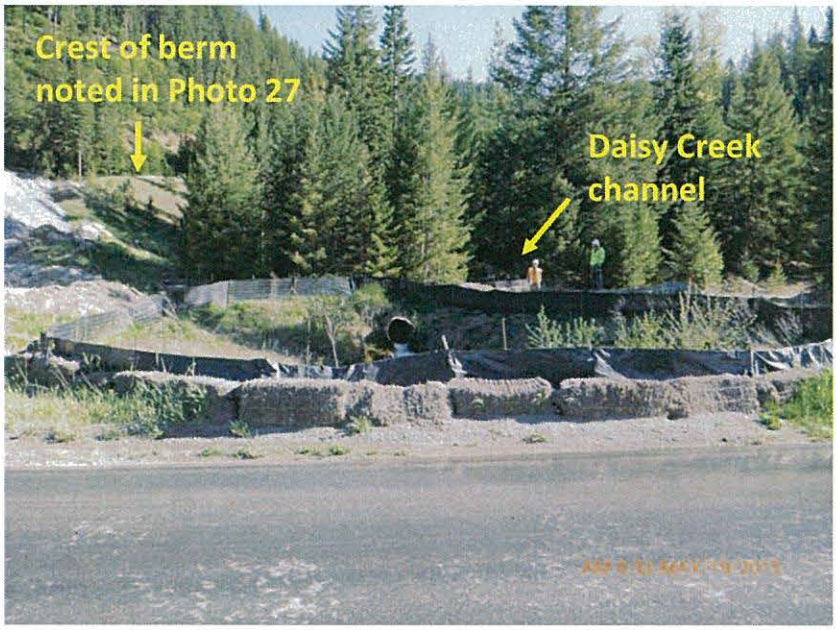

Photo No. 28 (P1010221)
Facing north – Daisy Creek flows into this shallow plunge pool before passing through culvert under Larson Road. From there, it flows approximately 845' to its confluence with SFCdA.

Photo No. 29 (P1010220)
Facing south – Daisy Creek flows through this plunge pool, through the culvert under Larson Road, to it confluence with SFCdA.

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

Photo No. 30 (P1010222)
Facing northeast – this is the location where to gravel road from the Silver Mountain Dump intersects Larson Road. I observed evidence of sediment flowing down the borrow ditch.

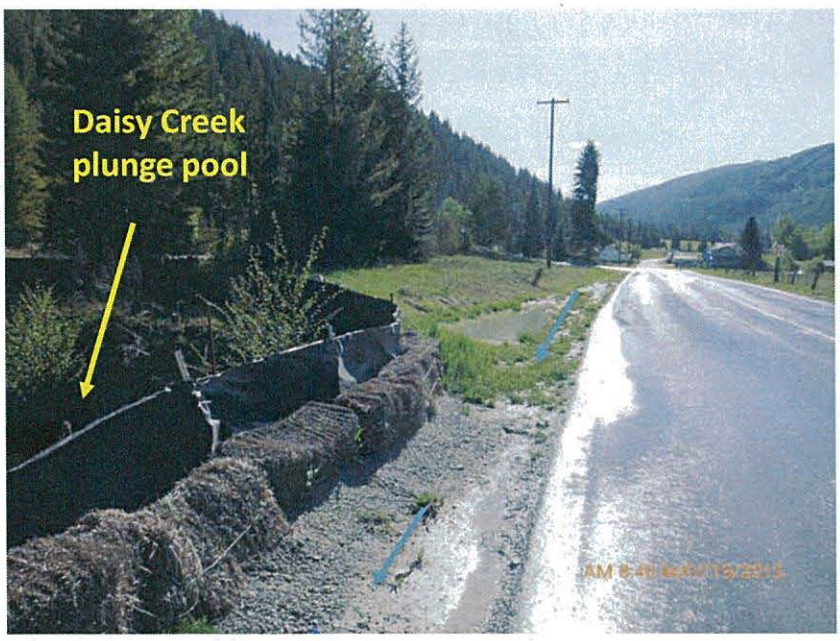

Photo No. 31 (P1010223)
Facing east – it appeared that there was a potential for sediment-laden runoff to flow from the Silver Mountain Dump access road to the borrow ditch on the north side of Larson Road. From there, the runoff could potentially flow into the SFCdA. There were no erosion or sediment controls in place.

Hecla Ltd, Lucky Friday Mine and Mill
Compliance Evaluation Inspection; May 18-19, 2015

Photo No. 32 (Google Earth – imagery date 8/24/2014)
Silver Mountain Dump

Hecla Ltd, Lucky Friday

Update of Information for Renewal of NPDES Permit No. ID0000175

Includes only pages 1-7 of 48 page application

LUCKY FRIDAY MINE

"Out of the Earth, Into Our Lives"

August 14, 2012

Lisa Olson
NPDES permits
U.S. Environmental Protection Agency, Region 10
Office of Water and Watersheds
1200 Sixth Avenue, Suite 900 (OWW-130)
Seattle, WA 98101-1128

RE: Update of Information for Renewal of NPDES Permit ID-000017-5

Dear Ms. Olson:

As stated in prior correspondence with your agency, the Lucky Friday has implemented numerous significant changes since the Lucky Friday Mine's NPDES Permit No. ID-000075-5 on March 17, 2008, which was subsequently deemed timely and complete by EPA. In the greater than two years since this submittal, our facility has completed numerous water management and treatment improvements including the operation of two water treatment plants (WTP 002 and WTP 003). The WTPs consist of multi-media filtration equipment and subsequent upgrades which in the case of WTP002 include clarification and water recycle. These improvements, while improving effluent quality, also provide greater flexibility to manage site waters.

Therefore, Hecla Limited is submitting an update (see attached) to the data and information submitted in March 2008. This update consists of current water quality data as reported on EPA standardized Form I and Form 2C of the NPDES application. Additionally, this cover letter is intended to supplement data reported on standard forms by providing a narrative site description which progresses in chronological order presenting the upgrades and modifications to our wastewater treatment systems. Furthermore, this cover letter provides explanation of sampling and analytical methods used to report data within these forms.

The Lucky Friday Mine (LFM) has been utilizing mine tailings impoundment structure (MTIS) No. 4 to manage tails deposition since approximately October 2010 and has afforded Hecla an opportunity to become familiar and adjust to variations in water quality reporting to the WTPs as a result of utilizing MTIS#4 (change of hydraulic elements within the system).

SITE DESCRIPTION

The LFM is located immediately east of Mullan, Idaho. Access to Underground (shafts) and support facilities, the surface mill and tailings impoundment structures (See map attached to Form I in response to Item XI), as well as the associated water treatment facilities adjacent to the mill and MTIS#3, comprise the pertinent structures of the current LFM. Historical mining activities of the LFM began with location of claims in 1889. Sporadic exploration, mining, and milling occurred until 1958, when Hecla acquired a 38% interest in the property. In 1964, Hecla acquired 100% interest in the property via merger with Lucky Friday Silver-Lead

Mines Company. Subsequent land purchases and acquisitions occurred to support mine growth. Cut and fill mining is used at the LFM with subsequent beneficiation of ore by standard lead/zinc flotation metallurgy.

Current water flow paths through the facility have changed significantly since the last flow diagrams were submitted to EPA in March of 2008. Therefore, these updates to our original permit renewal application are furnished. Corresponding details of our water flow paths are provided in other sections of this application (see Form 2C II.A attachment on water flow). Immediately to follow is a narrative intended to supplement the flow diagram provided as attachment to Form 2C II.A by furnishing language to clarify elements indicated on the diagram.

SUPPLEMENTAL WATER FLOW DIAGRAM NARRATIVE

The fresh water supply (raw water for potable use and fire suppression needs) for the mine is primarily captured from the National Mine Portal drainage and from flow in Deadman's Creek. The raw water for non-potable uses at the mine are supplied via intakes located on the north bank of the South Fork of Coeur d'Alene River and/or from drainage originating from the Gold Hunter Portal. All sources have been put to beneficial use and LFM has maintained water rights for these sources since first appropriated. Raw water intended for domestic usage (sourced from flows originating at the National Mine Portal, and surface flow from Deadman's Creek) is treated and disinfected to potable standards prior to distribution to fixtures. All locations of domestic usage have been clearly marked throughout the mine and are plumbed to discharge to the sanitary sewer for treatment via the publicly owned treatment works operated by the City of Mullan. Water usage underground includes, but is not limited to: dust suppression, shop wash-down, drill fluid makeup water, and HVAC spray chambers. After the water has been utilized for the intended purpose, underground points of accumulations (sumps) allow collection of the flow and primary settling of solids prior to pumping back above ground (only sump decant water is pump to surface). In addition to a portion of the water sent underground which is returned (neglects losses to muck and exhaust air due to increase in moisture from dust suppression and underground spray chambers) to the surface, groundwater infiltrates into the mine and is also collected in the same underground accumulation points (sumps) prior to pumping above ground. Therefore the flow rate of water pumped out of the mine typically exceeds the flowrate of water delivered to the underground due to the contributions of groundwater.

All water reporting to the surface from the mine is clarified and put to beneficial use within the mill circuits and other mill consumptions. The mill consumption rate typically exceeds the flowrate produced from the mine. Therefore, on a variable basis it becomes necessary to supplement the flow from the mine to satisfy the usage required by the mill and as necessary to control metallurgical characteristics of the water utilized in the recovery circuits. Immediately following the floatation circuits the mill discharges the tails stream to MTIS#4. The discharging stream consists primarily of water with on average less than 25% by weight solids content. The tails are accumulated within the impoundments as well as some water trapped in the pore space of tails (net loss) due to capillary pressures. Evaporation from the surface of the impoundments (pool and from exposed tails beaches) takes place at the impoundment(s) which is also a net loss to the water balance. Contrastingly, direct precipitation, groundwater captured in lateral drains, stormwater runoff, toe drain flow, blanket drain flow and groundwater directly infiltrating into the impoundments are all net gains to the water balance.

A portion of the water decanting from the impoundments is returned to the mill to further reduce consumption of fresh makeup water. Excess decant water not utilized within the mill for whatever reason is discharged to surface water through one of LFM's two active outfalls (Outfall 002 or Outfall 003, Outfall 001 is maintained as an emergency discharge Outfall only).

Since implementation of LFM's Water Management Program, the facility has shown reductions in our unit consumption of fresh water as compared to baseline, however, steady increases in production over a similar time frame have attenuated the illustration of these improvements. The LFM has successfully incorporated our Water Management concepts into current and long-term planning efforts as an integral component of our operating culture. Major improvements in late 2008 and throughout 2009 (See attached Form 2C IV.A.) have resulted in dramatically reduced discharge flowrates and metals loading to receiving waters. The improvements in 2008 and 2009 consisted primarily of installation and optimization of multimedia filtration plants (water treatment plant) at Outfall 002 and Outfall 003 as well as the commissioning of a water recycling system to reduce fresh water consumption at the mill as discussed above. Both water treatment plants utilize multimedia filtration (MMF) columns; however, Outfall 002 is equipped with additional pretreatment components consisting of surge tanks, chemical metering systems, and inclined plate clarifier prior to the MMF columns. Outfall 003 utilizes the separated compartments of Pond 3 to provide similar function (in alternative to the pretreatment components at Outfall 002). Operation of these additional components at Outfall 002 since installation has proven to be the optimum pretreatment step prior to MMF treatment. Therefore, Hecla has initiated a retrofit project for the water treatment plant at Outfall 003 to install these upstream components in replacement of utilizing the MTIS#3 for this purpose. Hecla anticipates completion of our Surge Tank and Clarifier Upgrade Project prior to January 1, 2012. Therefore, a subsequent update to the information contained herein should be anticipated by EPA. At the time of such subsequent update, the information presented therein will reflect our final operating configuration and effluent quality following commissioning of the upgraded pretreatment components.

The four most recent years of ambient water quality monitoring, as required under permit condition I.D., has shown no exceedances of applicable Idaho water quality criteria.

The characterized wastewater streams reporting to Outfalls 001, 002, and 003, are currently subject to NPDES Permit No. ID-000017-5 effluent limitations, which are based upon a mixture of: target performance metrics (Final Effluent Limitations for Lead, zinc, cadmium, and Mercury), water quality-based limitations (Tables 1-4, silver and copper), and technology-based limitations for TSS and pH. Applicable technology-based limitations are found in 40 CFR Part 440, Subpart J. Both pH limitations and TSS concentrations are identical for both mines and existing mills addressed under this Subpart. TSS load limits are adjusted to reflect the approved South Fork Coeur d'Alene River sediment TMDL. Only Outfall 002 and Outfall 003 have actively discharged during the period since our initial renewal application in March of 2008. Since submittal of LFM's initial NPDES Permit renewal application in March of 2008, only MTIS#3 was utilized for disposal of tails until MTIS#4 was commissioned in October 2010. MTIS#1 and MTIS#2 have been maintained as a potential discharge location for mill tails in the event of an emergency; however neither locations have received tails streams since prior to submittal of our March 2008 Renewal application.

EXPLANATION OF SAMPLING, ESTIMATION AND REPORTING METHODS

Item II-B Supplemental explanation of method for estimating contributions from stormwater

Stormwater contributions to the total outfall rate from LFM are based on use of the average annual rainfall depth. For all practical purposes MTIS have been designed to preclude run-on from upstream areas; therefore, direct precipitation into the impoundment is the only quantifiable effect of precipitation (shallow subsurface infiltration is not quantifiable). The total annual volume associated with rainfall at each impoundment is summed to determine the cumulative volume which is then evenly distributed over the year to obtain units of gallons per minute.

Item II-B Supplemental Description of treatment units and typical discharge configuration

Due to spacial constraints on the forms provided, the following supplemental information is presented to provide additional details regarding the treatment units with respect to size, retention time and ultimate disposal of any solids or liquid wastes, not discharged as requested in the instructions for Form 2c.

The Lucky Friday operates two nearly identical wastewater treatment plants (WTP02 and WTP03). Each is discussed individually to follow. It should be noted that LFM has installed pipe and fittings such to allow all or a portion of either wastewater stream (that reporting to WTP02 or WTP03) as described below, to be routed through either of two active Outfalls; however the individual components of the wastewater stream cannot be segregated. The wastewater streams described below as reporting to a specific WTP reflects the routing of flows under our typical operating configuration.

Description of WTP02

Fresh water usage (dust suppression, drilling activities, HVAC usage, etc) underground and groundwater infiltration into the underground workings are the source of water flows pumped out of the mine. This flow is settled underground in decanting sumps. The decanted water is pH adjusted and flocculated underground to promote chemical precipitation in sump locations. Mine water reaching the surface is amended with various flocculants and coagulants prior to throughput in a slant plate clarifier where sedimentation of this stream occurs. The flowrate through the clarifier is approximately 420 gpm. A portion of the clarified overflow (on average approximately 200 gpm) is sent to a recycle tank for use in the mill floatation circuits and slurry transport. The remaining flow (on average approximately 220 gpm) which is not utilized by the mill is filtered using MMF columns prior to discharge. The accumulated sediment collected in the bottom hoppers of the clarifier is pumped to the top of the tails thickener and ultimately disposed of in MTIS#4. Backwash residuals from the subsequent filtration system and with minor contributions from pump gland seals at the mill are pumped to the surge tank at WTP03 for filtration within MMF columns. The MMF system consists of three media columns approximately 8-foot diameter and 8-foot in height. The columns are filled with a 36" thick (minimum thickness) bed of granular material. The influent flow rate is split to utilize all three vessels in parallel to increase the duration between backwash cycles. As the differential pressures across the media bed reach the set point, the system automatically initiates a backwash cycle.

Description of WTP03

The water source to the mill flotation circuits consists primarily of water from the recycle system (originally pumped from underground which was clarified when necessary, prior to delivery to the recycle system tankage) installed to provide water for reuse in the mill. Occasionally, to control the metallurgy within the mill, fresh make-up water is added to the system. Tailings slurry (solids containing transport water) exiting the mill from the floatation circuits are amended with lime additions and/or proprietary reagents to promote chemical precipitation. Following lime adjustments and/or reagent addition, the tails are thickened prior to pumping to MTIS#4. This combines the steps of both chemical precipitation and sedimentation. Surplus water accumulating in MTIS#4 (approximately 450 gpm) is decanted from the surface and currently routed to WTP03 for additional settling/clarification. Prior to leaving the MTIS#4 site, the decanted water is further amended with injection of flocculants and coagulant compounds within the junction box building to increase the settling and clarification efficiency across the inclined plate clarifier at WTP03. The MMF system at WTP03 is identical to the components at WTP02 consisting of three columns approximately 8-foot in diameter and 8-foot in height each exhibiting a media bed with a minimum thickness of 36 inches. The influent flow rate is split to utilize all three vessels in parallel to increase the duration between backwash cycles. As the differential pressures

across the media bed reach the set point, the system automatically initiates a backwash cycle. All water used in the backwash cycle for WTP03 are pumped for ultimate disposal in MTIS#3.

The Lucky Friday has and will continue to utilize only two of three permitted outfalls to discharge treated wastewater at any given time. Typically, Outfall 002 and Outfall 003 are actively discharging and no flow is discharged via Outfall 001. Therefore, no average flow is indicated for discharges from Outfall 001. However, under emergency situations, flow from either Outfall 002 or Outfall 003 may be diverted to discharge via the Outfall 001 location. When utilized for emergency discharge the average flow rate will be dependent on which upstream outfall has been diverted.

Item II-C Supplemental Explanation – Not Applicable

Item III Supplemental Explanation – Not Applicable

Item IV Supplemental Explanation – Not Applicable

Item V Supplemental Explanation for Method of Calculating

The tables for section V of Form 2c present data consisting of routinely monitored parameters and parameters which are sampled on a single occasion for the purpose of this application. However, Part A, column 2 only provides entry fields for three types of flow (Maximum Daily Value, Maximum 30 Day Value, and Long Term Average). The Form 2c preparation instructions indicate column 2, subcolumns "b" and "c" are not compulsory which implies that completion of all fields in subcolumn "a" for all parameters is compulsory. We interpret this to mean data should always be present in subcolumn "a" for any applicable analyte regardless of dataset size (one time samples and those with 12 or more results). This creates a problem if the intent of the application is to collect all data necessary within the forms to reproduce all the load calculations also reported on the forms. In lieu of data to the contrary, we must assume the one time sampling event represents the Maximum Daily Concentration for this parameter.

To satisfy what we assume to be the intent of the application, Hecla has indicated the flowrate measured during collection of the one time sample parameters on Form 2c, Section V, Part A in column 2(a). Therefore, the flowrate indicated in Part A, column 2(a) is used to calculate the Maximum Daily Load for all one time sampled parameters. However this flowrate is not applicable to calculation of any Maximum Daily Loads for routinely monitored parameters. Seven routinely monitored parameters consisting of: Total Lead, Total Zinc, Total Copper, Total Cadmium, Total Silver, Total Mercury and Total Suspended Solids utilize different flowrates for calculating the Maximum Daily Load because the corresponding flowrate occurred on different dates for each parameter (i.e., maximum concentrations didn't always occur on the date of the maximum flow).

Hecla has assumed the metric of greatest interest to EPA regarding our effluent is the "daily load" imparted by discharge from our outfalls. As such, we have taken an approach for reporting information on these forms utilizing load as the controlling metric for determining how to characterize "Daily" values for routinely monitored parameters. In general, the method for identifying the proper value for use as Maximum Daily Concentration and Maximum Daily Load in Form 2c tables, Hecla reviewed DMRs from the most recent 12 preceding months. Hecla entered the value from the month exhibiting the highest Maximum Daily Load into the fields for Part A, columns 2(a) and Part C, columns 3(a) for these seven analytes. The months exhibiting the highest Maximum Daily Load for a given analyte was further examined to determine the corresponding concentration and flowrate on the date of concern (which may or may not be the maximum flow and/or concentration). The Maximum Daily Concentration (empirically determined) is indicated in Part A, columns 2(a) and Part C, columns 3(a) for these seven analytes. However, the corresponding flowrate utilized to calculate the Maximum

Daily Load reported in the tables is presented in text along with any other pertinent details for reporting on that parameter. Each parameter is discussed separately below.

Total Lead - Maximum Daily Concentration and Maximum Daily Load

The highest Maximum Daily Load for lead (0.058 lbs/day) occurred on January 19th, 2011. This load was the product of discharge from the outfall at a rate of 0.740 cfs and an exhibited corresponding concentration of Total Recoverable lead equal to 14.5 µg/L. It should also be noted that this date exhibited the highest Lead concentration and the second highest discharge rate monitored throughout the applicable one year dataset.

Total Zinc - Maximum Daily Concentration and Maximum Daily Load

The highest Maximum Daily Load for zinc (0.103 lbs/day) occurred on October 13th, 2010. This load was the product of discharge from the outfall at a rate of 0.320 cfs and an exhibited corresponding concentration of Total Recoverable zinc equal to 59.8 µg/L. It should also be noted that this date exhibited the highest zinc concentration monitored throughout the applicable one year dataset.

Total Copper - Maximum Daily Concentration and Maximum Daily Load

The highest Maximum Daily Load for copper (00.042 lbs/day) occurred on December 15th, 2010. This load was the product of discharge from the outfall at a rate of 0.780 cfs and an exhibited corresponding concentration of Total Recoverable copper equal to 9.92 µg/L. It should also be noted that this date exhibited the highest copper concentration and the highest discharge rate monitored throughout the applicable one year dataset.

Total Cadmium - Maximum Daily Concentration and Maximum Daily Load

The highest Maximum Daily Load for cadmium (0.0012 lbs/day) occurred on October 13th, 2010. This load was the product of discharge from the outfall at a rate of 0.320 cfs and an exhibited corresponding concentration of Total Recoverable cadmium equal to 0.68 µg/L. It should also be noted that this date exhibited the highest cadmium concentration monitored throughout the applicable one year dataset.

Total Silver - Maximum Daily Concentration and Maximum Daily Load

Silver was not measured above laboratory detection limits throughout the one year dataset utilized to characterize discharges from Outfall 002. Therefore, Hecla has assumed the concentration of silver in our discharge stream to be constant and thus the Maximum Daily Load must occur when the discharge flowrate is the highest. Therefore, the highest Maximum Daily Load for silver (0.000 lbs/day) occurred on December 15th, 2010 when the highest discharge flowrate (in the one year dataset) was measured at 0.780 cfs. This date exhibited a corresponding concentration for Total Recoverable silver at 0.0000 µg/L.

Total Mercury - Maximum Daily Concentration and Maximum Daily Load

The highest Maximum Daily Load for mercury (0.00002 lbs/day) occurred on February 16th, 2011. This load was the product of discharge from the outfall at a rate of 0.690 cfs and an exhibited corresponding concentration of Total Recoverable mercury equal to 0.00683 µg/L. It should also be noted that this date exhibited the highest mercury concentration monitored throughout the applicable one year dataset.

Total Suspended Solids - Maximum Daily Concentration and Maximum Daily Load

The highest Maximum Daily Load for Total Suspended Solids (1.2 lbs/day) occurred on January 19th, 2011. This load was the product of discharge from the outfall at a rate of 0.740 cfs and an exhibited corresponding

concentration of Total Suspended Solids (TSS) equal to 4.4 mg/L. It should also be noted that this date exhibited the highest TSS concentration and the second highest discharge rate monitored throughout the applicable one year dataset.

Sincerely,

Edward J. Sutich

Edward J. Sutich
V.P. & General Manager

Cc: Daniel Redline, DEQ Coeur d'Alene